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EXAMINER

CHOW, CHARLES CHIANG

ART UNIT	PAPER NUMBER
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2618

DATE MAILED: 06/30/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 10/687,733	<b>Applicant(s)</b> JUNG ET AL.	
	<b>Examiner</b> Charles Chow	<b>Art Unit</b> 2618	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 16 October 2003.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-31 is/are pending in the application.  
4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 26-31 is/are allowed.
- 6) ☒ Claim(s) 1-3, 9-14 and 18-25 is/are rejected.
- 7) ☒ Claim(s) 4-8 and 15-17 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 16 October 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☒ All    b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

### **Detailed Action**

#### **Title**

1. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed. The current title, "CELLULAR PHONE AND AUTOMATIC REVOLUTION METHOD THEREOF", is not descriptive for the key features of the invention, for the display folder is rotated by motor driving force around an axis which is perpendicular to the hinge axis for folding/unfolding, and the bevel gears in power transmission unit.

#### **Abstract**

2. The abstract of the disclosure is objected to because the abstract is too long, near 176 words. Correction is required. See MPEP§ 608.01(b).

Applicant is reminded of the proper language and format for an abstract of the disclosure. The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 150 words. It is important that the abstract not exceed 150 words in length since the space provided for the abstract on the computer tape used by the printer is limited. The form and legal phraseology often used in patent claims, such as "means" and "said," should be avoided. The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.

The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc. implied language.

#### **Claim Objections**

3. Claims 3, 16 are objected to because of the following informalities:

In line 3 of claim 3, the typographical error "an" should be ---on---. In last line of claim 16, the typographical error "i AE" needs to be corrected. Appropriate correction is required.

#### **Claim Rejections - 35 USC § 103**

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

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(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1-3, 11-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Barnett (US 2004/0045,131 A1) in view of Huang (US 2004/0062,171 a1).

**For claim 1**, Barnett teaches a cellular phone providing wireless communication [ mobile station 10 in Fig. 1 for cellular communication, paragraph 0025],

comprising a main body [14] having a key pad [24] and a hinge thereof along a folding and unfolding axis [ the hinge assembly 28 provides folding, unfolding axis 37, one of the three rotation axes 36-38, paragraph 0041, 0043],

a folder [body 12] having a display displaying data received from the main body [display 16 for displaying cellular call message data from body 14] ;

Barnett fails to teach a driving source disposed on a lower portion of the folder along the folding and unfolding axis to generate a driving force; a power transmission unit having one end coupled to the folder to transmit the driving force to folder to rotate with respect to the main body when folder is in an open state; a rotation controller and the other end coupled to the folder to transmit the driving force to folder to rotate with respect to the main body when the folder is in an open state; a rotation controller coupled to the power transmission unit disposed in a housing installed at the hinge of the main body; the transmission unit in a rotating axis perpendicular to the folding and unfolding axis to automatically and/or manually rotate the folder with respect to the main body.

Hung teaches a driving source[ motor 23, Fig. 4] disposed on a lower portion of the folder along the folding and unfolding axis to generate a driving force [ the gears 223, 224 & shaft 112, are disposed on a lower portion of the folding & unfolding axis to generate driving force for cover 1, Fig. 4-5, paragraph 0023-0025],

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a power transmission unit [ gears in Fig. 5] having one end coupled to the driving source [ gear 224 coupled to driving gear 232 in Fig. 5] and the other end coupled to the folder to transmit the driving force to folder to rotate with respect to the main body when the folder is in an open state [ the other end is coupled to the folder cover 1 via gear 111, 223, Fig. 5; gear 111 is attached to cover 1 via curved expansion 11, Fig. 4, to transmit rotational driving force via gear 224, 223 in Fig. 4-5, paragraph 0023; the cover 1 is in the open state condition, before post 113 disengaging switch 41, paragraph 0027],

a rotation controller [ the front post, 113, rear post 114 on gear 111, Fig. 5, switch 41 & MCU, for controlling the rotation as shown in paragraph 0026-0027] coupled to the power transmission unit [ gear 111 is coupled to the gear 223 as shown in Fig. 5], disposed in a housing [22 in Fig. 4] installed at the hinge [the rotation elements associated with 22 for cover 1 ] of the main body [ inside the housing 2 & 5, Fig. 4],

the transmission unit in a rotating axis perpendicular to the folding and unfolding axis to automatically and/or manually rotate the folder with respect to the main body [ in the transmission gears of 22, the driving gear 22 rotates perpendicular to the folding, unfolding axis formed by gear 223, 224 in Fig. 5/Fig. 4, parallel to the rotation axis for cover 1], in order to provide the driving force to conveniently rotate the cover 1 by a motor 23.

Therefore, It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Barnett with Huang's perpendicular motor driving force & gears, in order to conveniently open, close the cover via motor force.

**For claim 2**, Barnett teaches the cellular mobile phone 10, but fails to teach the features for this claim. Huang teaches the wherein the power transmission unit comprises a pair of bevel gears [Fig. 4-5, 224, 232, paragraph 0025, his claim 5] having a driving gear [232] coupled to the driving source [motor 23] and a driven gear [ 224] coupled to the driving gear

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[232] and having a shaft fixedly coupled to the folder [the shaft 112 of curved expansion 11 is fixed coupled to folder cover 1, paragraph 0023, via gears 111 to 223 in Fig. 5], using the same reasoning in claim 1 above to combine Huang to Barnett.

**For claim 3,** Barnett teaches the cellular mobile phone 10, but fails to teach the features for this claim. Huang teaches wherein the power transmission unit [Fig. 5] further comprises a fixed member [11 in Fig. 4] disposed on an outside surface of the shaft [shaft 112 in paragraph 0023] provided on the driven gear [111] to couple the shaft [112] to the folder [cover 1], using the same reasoning in claim 1 above to combine Huang to Barnett.

**For claim 11,** Barnett teaches the cellular mobile phone 10, but fails to teach the features for this claim. Huang teaches wherein the rotation controller and/or the folder comprising a rotation stopping unit terminating a rotation of the folder when the folder is rotated at a predetermined rotation angle [the front post 113, rotation controller, contacts switch 41, to send a signal to MCU to stop motor rotation, paragraph 0026], using the same reasoning in claim 1 above to combine Huang to Barnett.

**For claim 12,** Barnett teaches the cellular mobile phone 10, but fails to teach the features for this claim. Huang teaches wherein the rotation stopping unit comprising a lower protrusion [curved expansion 11 on cover 1, Fig. 4] protruding from a lower portion of the folder [cover 1, Fig. 3] to rotate together with the folder; and a stopper [front post 113] formed on the housing to correspond to the lower protrusion [11] rotating together with the folder to control the folder to stop the rotation of the folder [to stop rotating cover 1 via switch 41, MCU, paragraph 0026-0027], using the same reasoning in claim 1 above to combine Huang to Barnett.

**For claim 13,** Barnett teaches the cellular mobile phone 10, but fails to teach the features for this claim. Huang teaches wherein the rotation stopping unit further comprising

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a limit switch [ 41] disposed adjacent to the stopper [post 113] to terminate the rotation of the driving source [motor 23] so as to terminate the rotation of the folder [ 113 contact switch 41 to stop motor rotation via MCU, paragraph 0023], using the same reasoning in claim 1 above to combine Huang to Barnett.

**For claim 14**, Barnett teaches the cellular mobile phone 10, but fails to teach the features for this claim. Huang teaches wherein the folder and/or the power transmission unit comprising a rotation termination detecting unit [ post 113, 114 & switch 41, MCU] detecting completion of the rotation of the folder to terminate the rotation of the driving source [ detecting the completion of rotation when 113 or 114 contact switch 41, to send a signal to MCU to stop motor, paragraph 0026-0027], using the same reasoning in claim 1 above to combine Huang to Barnett.

4. Claims 9-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Barnett, Huang, as applied to claim 1 above, and further in view of Marietta Bersana (US 2004/0056,651 A1).

**For claim 9**, Barnett teaches the cellular mobile phone 10, & the open, close, stopping post 113, 114 & switch 41, but does not the folder state. Barnett & Huang fail to teach the main body and or folder comprising a folder state detecting unit detecting a folding and unfolding state of the folder.

Marietta Bersana teaches the wherein the main body and/or the folder comprise a folder state detecting unit detecting a folding and unfolding state of the folder [ the detecting open or closed position of flip lid 10 using magnet 18 & Hall effect sensor 22, Fig. 1, paragraph 0016, 0018, abstract], with low cost Hall effect sensor [0018]. Therefore, It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify

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Barnett, Huang with Marietta Bersana's magnet sensor, in order to reduce the cost to detect the open, closed position of the flip lid.

**For claim 10**, Barnett teaches the cellular mobile phone 10, Barnett & Huang fail to teach the magnet provided on folder, the at least one hall element on main body.

Marietta Bersana teaches wherein the folder state detecting unit comprises a magnet [18] provided on the folder [12]; and

at least one hall element [22] provided on the main body [base 14] to detect a magnet field generating from the magnet to detect the folding and unfolding state of the folder [abstract, paragraph 0016, 0018].

5. Claims 18-25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Barnett in view of Huang and Kfoury (US 6,549,789 B1).

**For claim 18**, Barnett teaches a cellular phone providing wireless telecommunication [ mobile station 10 in Fig. 1 for cellular communication, paragraph 0025], the folder 12 has a display 16, paragraph 0039, which can be twisted in an angle along vertical axis 38 in Fig. 1, paragraph 0002, 0042]

Barnett fails to teach an automatic folder folding method, the inputting a rotation signal to a motor to rotate a folder; the determining whether the folder is in an open or close state to rotate the folder according the rotation signal; the driving motor in one of a forward direction and a reverse direction to rotate the folder; the completing a rotation of the folder by a predetermined angle; cutting off the rotation signal from the motor to terminate the rotation of the folder.

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Huang teaches an automatic folder folding method [ the optical disk drive in Fig. 4-5, having automatic rotation control via stopper post 113, 114 & switch 41, MCU, to control the force from motor 23 in paragraph 0027-0028],

the inputting a rotation signal to a motor to rotate a folder with respect to a main body [ the pushing ejection button 3 to inputting a rotation signal to motor 23 to drive worm gear 232, for open or close cover 1, paragraph 0026-0027],

determining whether the folder is in an open or close state to rotate the folder according to the rotation signal [ the rear post 114 moves away from switch 41 in paragraph 0026 or the front port 113 disengaging switch 41 in paragraph 0027, provides the close or open state to rotate the folder cover 1];

driving the motor [23] in one of a forward direction and a reverse direction to rotate the folder according to a rotation direction determined by the initial position of the folder [ the rotation direction for opening the cover 1 when 114 moves away from switch 41, for the determined rotation direction to open the cover 1 in paragraph 0026; the rotation direction for closing the cover 1 when 113 disengaging from switch 41, for the determined rotation direction to close the cover 1 in paragraph 0027],

completing a rotation of the folder by a predetermined rotation angle [ the completing of rotation of cover 1 by the predetermined rotation angle set by post 113, 114 in Fig. 5]; and

cutting off the rotation signal from the motor to terminate the rotation of the folder [ the switch 41 sends signal to MCU to stop motor force, paragraph 0026-0027], in order to automatically control the motor force to conveniently rotate the cover with Barnett's display.

Therefore, It would have been obvious to one of ordinary skill in the art at the time the invention was made to upgrade Barnett with Huang's automatic controlling of motor force, in order to conveniently rotate the cover display.

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Barnett & Huang fail to teach the determining whether the folder is in an initial or opposite position when the folder is in the open state

Kfoury teaches the determining whether the folder is in an initial or opposite position when the folder is in the open state [ the second detector 226 in first-housing 202 senses the aligned magnet 224 of second-housing, due to rotation, the 226 provides a second rotational position signal to microprocessor 103, for twist rotation of cover 204 as shown in Fig. 8 & col. 6, line 66 to col. 7, line 13; other than the first-rotational signal from first-detector 228, for the open, close, of cover 204, in col. 6, lines 46-65], for change the operation mode to match the user interface [col. 7, lines 8-13], for a display in a cover. Therefore, It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Barnett & Huang with Kfoury's detector 226 for the twist rotational position signal, in order to change the operation mode to match user interface for user.

**For claims 19, 23,** Barnett fails to teach the feature in this claim. Huang teaches the wherein the determining of the open state of the folder [ the 114 disengaging switch 41 in paragraph 0026] comprises opening the folder when the folder is not in the open state [ the motor continues to drive the worm gear 232 to open cover in 0026].

**For claims 20, 24,** Barnett teaches the display 16 in cover 12 & the twisting rotation of display 16 [Fig. 1], but fails to teach the further features in this claim. Huang teaches the wherein the driving of the motor comprises driving the motor[ 23] in the forward direction [the forward direction to open cover 1 in paragraph 0026] when the cover is in the initial position [ initial position before post 114 moves away from switch 41, paragraph 0026].

**For claims 21, 25,** Barnett teaches the display 16 in cover 12 & the twisting rotation of display 16 [Fig. 1], but fails to teach the further features in this claim. Barnett fails to teach

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the feature in this claim. Huang teaches the wherein the driving of the motor [23] comprises driving the motor in the reverse direction when the cover is in the opposite position [ the reverse direction to close cover 1, paragraph 0027].

**For claim 22**, Barnett teaches a cellular phone providing wireless telecommunication [ mobile station 10 in Fig. 1 for cellular communication, paragraph 0025], the folder 12 has a display 16, paragraph 0039, which can be twisted in an angle along vertical axis 38 in Fig. 1, paragraph 0002, 0042]

Barnett fails to teach the an automatic folder folding method; determining whether the folder is in an open or close state to rotate the folder according to the rotation signal; the driving the motor in one of a forward direction and a reverse direction to rotate the folder according to a rotation direction determined by the initial position of the folder; determining whether a rotation completion detecting sensor is in an on state to detect a rotation of the folder according to completion of the rotation of the folder by the motor; cutting off the rotation signal from the motor to terminate the rotation of the folder upon determining that the rotation completion detecting sensor is in the on state.

Huang teaches an automatic folder folding method [ the optical disk drive in Fig. 4-5, having automatic rotation control via stopper post 113, 114 & switch 41, MCU, to control the force from motor 23 in paragraph 0027-0028],

the inputting a rotation signal to a motor to rotate a folder with respect to a main body [ the pushing ejection button 3 to inputting a rotation signal to motor 23 to drive worm gear 232, for open or close cover 1, paragraph 0026-0027],

determining whether the folder is in an open or close state to rotate the folder according to the rotation signal [ the rear post 114 moves away from switch 41 in paragraph 0026 or

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the front port 113 disengaging switch 41 in paragraph 0027, provides the close or open state to rotate the folder cover 1];

driving the motor [23] in one of a forward direction and a reverse direction to rotate the folder according to a rotation direction determined by the initial position of the folder [ the rotation direction for opening the cover 1 when 114 moves away from switch 41, for the determined rotation direction to open the cover 1 in paragraph 0026; the rotation direction for closing the cover 1 when 113 disengaging from switch 41, for the determined rotation direction to close the cover 1 in paragraph 0027],

determining whether a rotation completion detecting sensor is in an on state to detect a rotation of the folder according to completion of the rotation of the folder by the motor [ the rotation sensor switch 41 detects the on state when post 113 contacts switch 41, for opening the cover 1, paragraph 0026, Fig. 4],

cutting off the rotation signal from the motor to terminate the rotation of the folder upon determining that the rotation completion detecting sensor is in the on state [ the stopping motor driving for rotating opening cover 1 when the on state is determined by the contacting of post 113 to the sensor switch 41, paragraph 0026], in order to automatically control the motor force to conveniently rotate the cover with Barnett's display. Therefore, It would have been obvious to one of ordinary skill in the art at the time the invention was made to upgrade Barnett with Huang's automatic controlling of motor force, in order to conveniently rotate the cover display.

Barnett & Huang fail to teach the determining whether the folder is in an initial or opposite position when the folder is in the open state.

kfoury teaches the determining whether the folder is in an initial or opposite position when the folder is in the open state [ the second detector 226 in first-housing 202 senses

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the aligned magnet 224 of second-housing, due to rotation, the 226 provides a second rotational position signal to microprocessor 103, for twist rotation of cover 204 as shown in Fig. 8 & col. 6, line 66 to col. 7, line 13; other than the first-rotational signal from first-detector 228, for the open, close, of cover 204, in col. 6, lines 46-65], for change the operation mode to match the user interface [col. 7, lines 8-13], for a display in a cover. Therefore, It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Barnett & Huang with Kfoury's detector 226 for the twist rotational position signal, in order to change the operation mode to match user interface for user.

### Claims Objection

6. Claims 4-8, 15-17 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

For **claims 4-5**, the prior arts fail to teach fixed member disposed on outside surface of the shaft provided on the driven gear to coupled the shaft to folder which has the snap ring on the washer to elastically press the washer; the bearing disposed on the outside surface of the shaft of the driven gear contacting the folder to increase an rotation efficiency of the folder.

For **claim 6**, the prior art fail to teach the rotation controller comprising male cam having one end coupled to the power transmission unit and the other end formed with a projection with tapers on both sides thereof, although Kato et al. (US 6,175,990 B1) teaches the hinge assembly in Fig. 12 for rotation control but fail to teach the one end coupled to the power transmission unit. The dependent **claims 7-8** are also objected due to their dependency upon objected claim 6.

For **claim 15**, the prior art fail to teach the wherein the rotation termination detecting unit comprising at least one fixed terminal disposed on the power transmission unit. The dependent **claims 16-17** are also object to due to their dependency upon objected claim 15.

The following are the prior arts under consideration:

**Kato et al. (US 6,175,990 B1), Till (US 6,374,089 B1), Hunag (US 2004/0062,171 A1), Barnett (US 2004/0045,131 A1), Tanaka (US 2004/0189,856 A1), Cheon (US 6,484,016 B1), Park et al. (US 2005/0192,066 A1), Kim (Us 2005/0160,558 A1), Moon (US 6,275,376 B1), Murry et al. (US 6,353,733 B1), Fujita (US 6,115,886), Atsushi (JP 2003-056,545).**

#### **Allowable Subject Matter**

7. The following is an examiner's statement of reasons for allowance:

Claim 26-31 are allowable, over the prior art of record. The prior arts fail to teach the allowable features, singly, particularly, or in combination, for the feature in independent claim 26, a rotation unit having one end coupled to the folder and the other end coupled to an inside of the hinge in a rotation axis perpendicular to the folding and unfolding axis to allow the folder to be folded and unfolded with respect to the main body.

The dependent claims 27-28 are also allowable due to their dependency upon the independent claims and the having additional claimed features.

Claims 29-31 are allowable over the prior art of record. The prior arts fail to teach the allowable features, singly, particularly, or in combination, for the feature in independent claim 29, a third portion coupled to transmit a driving force between the first portion and the second portion to rotate the folder in first and second direction about a rotation axis perpendicular to the folding and unfolding axis with respect to the main body.

The dependent claims 30-31 are also allowable due to their dependency upon the independent claims and the having additional claimed features.

The closest prior art **Hunag (US 2004/0062,171 A1)** teaches an optical disk device in Fig. 4, having a motor 23 coupled to the gears 223, 224 for opening, closing, the cover 1 which has position sensing front, rear post 113, 114 to contact switch 41 for the motor driving force control, but fails to teach the rotation of the folder about a rotation axis perpendicular to the folding and unfolding axis, with respect to the main body, above.

**Barnett (US 2004/0045,131 A1)** teaches a mobile station 10 having the hinge assembly 28 [ Fig. 1-10, abstract] for manually rotate, swivel, twist, the display cover 16 around multiple transversely extending axes & longitudinally extending axis, but fails to teach the motor driving force for rotating folder about a rotation axis perpendicular to the folding and unfolding axis with respect to the main body, above.

Other prior arts in below has been considered, but they fail to teach the above allowable features.

**Kfoury (US 6,549,789 B1)** teaches the user interface 212 can be rotated about an axis which is perpendicular to the folding, unfolding axis, but fails to teach the display, third portion, the motor driving force for rotating folder about a rotation axis perpendicular to the folding and unfolding axis with respect to the main body, above.

**Till (US 6,374,089 B1)** teaches the motor 50 [Fig. 1-3] for rotation the cover 20 [abstract, col. 1, line 49 to col. 2, line 31], but fails to teach the above allowable features.

**Atsushi (JP 2003-056,545)** teaches the motor driven hinge for rotating cover display [Fig. 1-5, (57) abstract], but fail to teach above allowable features.

Other prior arts are also considered. They are as follows:

**Kato et al. (US 6,175,990 B1), Tanaka (US 2004/0189,856 A1), Cheon (US 6,484,016 B1), Park et al. (US 2005/0192,066 A1), Kim (US 2005/0160,558 A1), Moon (US 6,275,376 B1), Murry et al. (US 6,353,733 B1), Fujita (US 6,115,886).**

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

### **Conclusion**

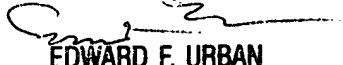
8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.
  - A. US 2003/0040,288 A1, Kang et al. teaches a hinge module for portable wireless terminal with rotating display of folder 250 around axis A2, other than axis A1 for close, open, the folder, Fig. 19, paragraph 0095-0097.
9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Charles Chow whose telephone number is (571) 272-7889. The examiner can normally be reached on 8:00am-5:30pm. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Edward Urban can be reached on (571) 272-7899. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public

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PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Charles Chow C.C.

June 19, 2006.

  
EDWARD F. URBAN  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 2600